

## NASA Glenn Faculty Fellowship Program (NGFFP)

NGFFP/09-1

at

NASA Glenn Research Center (GRC)

Cleveland, Ohio

### Program Description

Ten-week fellowships for science and engineering faculty at accredited US universities and colleges are available at NASA Glenn Research Center (GRC), Cleveland, Ohio, during the summer months. **The official tenure period for 2009 is Monday, June 1 through Friday, August 7.** The proposed research project must be of mutual interest to the prospective fellow and the GRC colleague, and aligned with GRC research and technology objectives to advance NASA mission.

The Aerospace Research and Fellowship Program is intended to provide university and college faculty with research experience to: (1) Enhance their professional knowledge; (2) Stimulate an exchange of ideas between them and employees of NASA GRC; (3) Enrich and refresh the research and teaching at their institutions through infusion of NASA mission-related research and technology content into classroom teaching; and (4) Contribute to the research, technology and engineering objectives of GRC. Fellows work on projects to complement in-house efforts by their GRC professional colleagues.

### Glenn Research Center

The NASA GRC occupies a 350-acre site adjacent to the Cleveland Hopkins International Airport. It provides a campus-like environment with over 170 buildings and structures, including offices, laboratories, wind tunnels, test cells, and other research facilities. Approximately 3000 civil service, contractor, and visiting personnel work at the Center. Scientists and engineers constitute more than fifty percent of the personnel.

Glenn Research Center (Cleveland, Ohio) is designated as NASA lead Center for Aeropropulsion from subsonic to hypersonic speed. In this capacity it is Glenn's role to develop, verify, and transfer aeropropulsion technologies to U.S. industry. Glenn is, also, a designated Center of Excellence in Turbomachinery. The role here is to develop new and innovative turbomachinery technology to improve the reliability and performance, efficiency and affordability, capacity and environmental compatibility of future aeronautical and space propulsion systems. Other Glenn primary areas of expertise embody a broad array of research, technology and engineering development efforts in aerospace power, In-space propulsion, space communications and electronics, launch and exploration vehicles, and space processes and experiments which include bioscience and technology, combustion and reacting systems, and fluid physics and transport. Finally, Glenn is engaged in technology development in advanced energy, including renewable wind, solar and coal energy. Some of several energy-related demonstration projects focus on testing, evaluation and advancement of wind turbines, fuel cells and photovoltaics.

Research and technology, and engineering developments encompass relevant specialty areas and management of major projects. Among the **areas of interest** are the following:

- A. Advanced Microwave Communications
- B. Acoustics
- C. Aeronautical and Space Systems Analysis
- D. Computer Systems and Networks
- E. Materials and Structures, including Mechanical Components and Lubrication
- F. Icing and Cryogenic Systems
- G. Instrumentation, Controls and Electronics
- H. Fluids, Computational Fluid Dynamics (CFD) and Turbomachinery
- I. Electric (Ion) Propulsion for Spacecraft
- J. Microgravity Fluid Physics, Combustion Phenomena and Bioengineering
- K. Nanotechnology

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- L. Photovoltaics, Electrochemistry-Physics, and Thermal Energy Conversion
- M. Propulsion System Aerodynamics
- N. Space Power Generation, Storage, Distribution and Management
- O. Systems Engineering
- P. Advanced Energy (Renewable Wind, Solar and Coal Energy, Alternative Energy)

More in-depth descriptions of GRC research opportunities for faculty may be found at the following “url” for Higher Education programs:

<http://newbusiness.grc.nasa.gov/university-affairs/>

## Eligibility

Fellowships are intended primarily for full-time science and engineering **faculty of U.S. citizenship**, who are tenured or in tenure-track positions at 4-year, accredited United States colleges and universities, or full-time faculty at 2-year U.S. academic institutions. Faculty members who do not meet the stated criteria may be considered on a case-by-case basis. Faculty members from under-represented groups and at minority institutions are encouraged to apply.

To be eligible for consideration, an applicant must **not** have participated in the NGFFP in the **past two consecutive Summers** (of 2008 and 2007).

GRC is committed to implementing all Federal laws, regulations and guidelines related to the development of affirmative employment and inclusion of persons with disabilities. Women and underrepresented minorities, and disabled persons with qualifications in science, technology, engineering or math (**STEM**) disciplines are encouraged to apply.

## Requirements for NGFFP Awards

Each Fellow must:

- **Not** concurrently hold a NASA research grant during the Fellowship tenure
- Complete a continuous 10-week research Fellowship at GRC;
- Conduct a research presentation or seminar at GRC, during their Fellowship tenure;
- Submit a final report on the results/outcomes of their research, at the end of their Fellowship;
- Complete a program feedback form.

## Application

Fellowships are awarded to faculty with specific interests and experience that are compatible with available opportunities in GRC host organizations. Such opportunities typically reflect the “**areas of interest**” enumerated under sub-heading “**Glenn Research Center**” in page number NGFFP/09-1. If possible, faculty members who wish to pursue Fellowship opportunities at GRC are encouraged to contact potential GRC host organizations, to determine mutual interest in collaborative projects that are aligned with GRC’s research and development engagements, prior to submitting their application.

The Fellowship tenure is firmly 10 weeks in duration. Extensions beyond the normal 10-week Fellowship may be granted, only if deemed necessary to mutually benefit GRC, and if funding is available. Fellowships do **not** provide for vacation time; such time should be scheduled **outside** the 10-week tenure period. Faculty members are expected to adhere to the official tenure period, and be full-time in residence at GRC, during their Fellowship tenure. Any request for deviation from the official **start (June 1, 2009)** and **end (Aug. 7, 2009)** dates of the Fellowship may be considered only under very extraordinary circumstance. The NGFFP Manager must approve such a request before an alternate start or end date can be changed. Additional information may be obtained by contacting:

Dr. M. David Kankam / University Affairs Officer  
NASA Glenn Research Center  
Research and Technology Directorate  
Business Development and Partnership Office  
Mail Stop 49-5  
Cleveland, OH 44135  
Telephone: (216) 433-6143  
E-mail: Mark.D.Kankam@.nasa.gov

Supporting material, including a curriculum vita and an **originally signed** letter from the Dean or Head of your Department must be snail-mailed, under **separate** cover, to Dr. Kankam at the above address. An accepted applicant may bring **1** accompanying student who **must be a US citizen**, with the prior approval by the GRC host organization which will then be expected to cover the additional student expense.

\*\* A completed electronic application will be submitted to: [Mark.D.Kankam@nasa.gov](mailto:Mark.D.Kankam@nasa.gov) by hitting the “**Submit**” button at completion of the application. Please **E-mail a copy** of your completed application to: [Bernice.A.Beznoska@nasa.gov](mailto:Bernice.A.Beznoska@nasa.gov)

\*\* For ease of identification and to ensure receipt of your application, kindly insert the following after the “Subject Line” at the end of this application: “**2009 NASA Glenn Faculty Fellowship Program**” followed a space and Your First Name-Last Name-NGFFP09

**Application opens on Tuesday, December 23, 2008 and closes at 5:00 PM on Friday, February 6, 2009.**

### **Stipends**

The **weekly** stipend for faculty is as follows:

Assistant Professor - \$1,300.00  
Associate Professor - \$1,400.00  
Full Professor - \$1,500.00

Stipend for an accompanying student varies, depending on the level of education. Fellows and student interns are guests of GRC and, as such, are effectively self-employed for tax purposes. The stipend is subject to federal, state and local taxes, including social security (self-employment) tax. **No deductions are withheld from stipend payments to faculty or students. Fellows and students are individually responsible for meeting all tax obligations.**

### **Relocation and Travel Allowances**

A relocation allowance will be provided to those Fellows who live more than fifty miles from GRC. A **maximum of \$1500.0** relocation allowance may be used to defray expenses associated with a pre-fellowship tenure visit which is encouraged, if it is mutually deemed necessary by the prospective Fellow and his/her GRC colleague. Fellows who receive the relocation allowance will, also, be reasonably reimbursed for travel expenses for one round-trip from their home institutions to GRC. Such travel allowance **will not exceed \$500.0**. The **combined** relocation and travel **allowances will not exceed \$2000.00** for any eligible Fellow.

### **Housing**

Faculty must make their own housing arrangements. A list of short-term accommodations within the vicinity of GRC may be obtained from Ms Bernice Beznoska (Phone: 216-433-2678; E-mail: [Bernice.A.Beznoska@nasa.gov](mailto:Bernice.A.Beznoska@nasa.gov)). The NGFFP does not provide living expenses.

**NASA Glenn Faculty Fellowship Program (NGFFP)**  
**APPLICATION FOR SUMMER 2009 FACULTY FELLOWSHIP**

NGFFP/09-4-APP-1

Name: \_\_\_\_\_ Social Security Number: \_\_\_\_\_  
(Last, First M.I.)

Place of Birth: \_\_\_\_\_

Country of Citizenship: \_\_\_\_\_ If not U.S., Type of Visa: \_\_\_\_\_

If Naturalized: \_\_\_\_\_ If Permanent Resident: \_\_\_\_\_  
Naturalization Number and Date Alien Registration Number

Current Position, Department, Institution: \_\_\_\_\_

Home Address: \_\_\_\_\_ Work Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone: ( ) \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_

E-mail: \_\_\_\_\_ Fax: ( ) \_\_\_\_\_

Highest Academic Degree, Field, School, and Year: \_\_\_\_\_

Prioritize 3 "Areas of Interest" (see pg. NGFFP/09-1) \_\_\_\_\_

If you do not hold a doctorate, are you working towards that degree? ( ) Yes ; ( ) No

If Yes, give date expected, school and department: \_\_\_\_\_

Special Field of Knowledge: \_\_\_\_\_

Current Teaching Responsibility: \_\_\_\_\_

Current Research Area(s): \_\_\_\_\_

Sponsor(s) of Current Research (if any): \_\_\_\_\_

Have you previously participated in the GRC Faculty program? ( ) Yes ( ) No If Yes, state year(s): \_\_\_\_\_

Anticipated Fellowship Research: \_\_\_\_\_

Anticipated Glenn Host Organization and Colleague (if known): \_\_\_\_\_

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**OFFICE USE ONLY**

Date Received: \_\_\_\_\_ OWM: \_\_\_\_\_ Weekly Stipend: \$ \_\_\_\_\_

Date Processed: \_\_\_\_\_ PR Requirement: \$ \_\_\_\_\_

**Statement of Academic Benefit**

Tenure Dates – (Need prior approval, if different from official dates. Only **1 week** allowed on either side of official date):

From: \_\_\_\_\_ (Date) To: \_\_\_\_\_ (Date)

Professional References (name, title, telephone, and e-mail address):

1. Dean or Department Head \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**\*\* Send under a separate cover:** (1) A curriculum vita; (2) An originally signed reference letter from your Dean or Department Head that- (a) Endorses your participation in this program, and (b) Describes the tenure status of your appointment at your institution. The vita and letter should be addressed to Dr. M. David Kankam, University Affairs Officer, NASA Glenn Research Center, Mail Stop 49-5, 21000 Brookpark Rd., Cleveland, OH 44135.

Application and supporting materials must be received **by 5:00 PM on the due date of February 6, 2009**. Participants are expected to be at GRC, full-time for the 10 consecutive weeks, beginning on the official or other pre-approved start date (**not to exceed 1 week before or after the official start date**).

I certify that the information provided herein is complete and correct.

Signature \_\_\_\_\_ Date: \_\_\_\_\_

Kindly insert the following after the “Subject Line” at the end of this application: **“2009 NASA Glenn Faculty Fellowship Program”** followed a space and Your First Name-Last Name-NGFFP09

**\*\* Please:**

1. Check for completeness of your application, then
2. On the “Subject Line”, Leave a **blank space** after **2009 NASA Glenn Faculty Fellowship Program** and type Your First Name-Last Name-NGFFP09.

Subject Line: **2009 NASA Glenn Faculty Fellowship Program**

**NOTE: Applicants will be notified of the outcome of their application in late March-to-mid-April.**